



SPARK GAP

Vol. 39, Issue 2, February 2022 *MARC - Serving Central Indiana Communities*

ON OUR MARC:

This Saturday, February 19, at 8 am we will be holding our monthly MARC meeting at New Hope Church, 5307 W Fairview Rd Greenwood IN 46142 - on Fairview just west of Morgantown road. We will meet in the Youth Room, which is the room **UPSTAIRS** that we have used in the past on the upper level. **Enter through the upper level South facing doors if you do not want to climb stairs.** If you enter from the lower level doors (West facing) you will need to climb the stairs to the right of the doorway. The Youth Room is on the left at the top of the stairs. Jason Lopez, N9CRT, Marion County CERT Planning Chief (or designee if necessary) will be our guest speaker this month. He will have a 30 minute CERT presentation after check-ins.

A group met to plan/organize for Emergency Communication. See the article from Jack, W8ISH in this issue of Spark Gap.

See you at the meeting Saturday.

73,

Tim

WC9G





FEBRUARY 2022 BIRTHDAYS

***K9DY – STEVE CARMEAN
ND9C – STEVE CRUTIS
N9SIU – ROBERT LaGRANGE
W9OQ – CHRIS READ
K9THR – RON SCHUETZ***

Research on Ancient Massive Solar Storms Suggests a Need to Prepare for the Next Ones

Numerous powerful X-class solar flares occurred last fall as Solar Cycle 25 activity picked up. Jon Jones, N0JK, covered the event in his *QST* column, "The World Above 50 MHz," in the February issue, and he pointed out, "More powerful flares than these have taken place, such as the Carrington Event of 1859, during which aurora was seen in the South Pacific and in Cuba, and it sparked electrical fires."

Similar events took place in the 20th century, but, as Jones notes, scientists are researching spectacular solar storms that took place as early as 7176 BC and in 5259 BC. The huge solar flare some 9,200 years ago has convinced researchers that we are not ready for the next one, and our modern technology would take a major hit.



"Also worrisome is that Earth may have narrowly dodged a 'Carrington-level event' in 2012," Jones said. Daniel Baker of the University of Colorado -- speaking at a NOAA Space Weather Workshop -- said, "If it had hit, we would still be picking up the pieces."

Jones said his reading has led him to conclude that these solar superstorms occur more frequently than people think. "As more ice cores and tree rings are sampled, scientists are finding there have been more of these [major solar storms]," he said.

In his February column, Jones cited a 2013 Royal Academy of Engineering [report](#) that discussed the risks of a Carrington-level event.

"An extreme space weather event, or solar superstorm, is one of a number of potentially high-impact, but low-probability natural hazards," said Paul Cannon, a Royal Academy of Engineering fellow and chair of the study working group that developed the report. "Extreme space weather [can have] impacts on engineered systems and infrastructure."

Cannon said the hazard and risks of extreme space weather on the electricity grid, satellites, and air passenger safety had not previously been critically assessed. His group's report attempts to address that omission.

The *Live Science* article, "Ancient solar storm smashed Earth at the wrong part of the sun's cycle -- and scientists are concerned," cites a study, "[Cosmogenic radionuclides reveal an extreme solar particle storm near a solar minimum 9125 years BP](#)." Study co-author Raimund Muscheler, a geology researcher at Lund University in Sweden, said, "These enormous storms are currently not sufficiently included in risk assessments. It is of the utmost importance to analyze what these events could mean for today's technology and how we can protect ourselves."

"A Carrington Event taking place today could destroy orbiting satellites, disrupt GPS, and damage undersea cables and internet infrastructure on the ground," Jones said in his *QST* column. "An event in 775 AD was believed to have been 100 times stronger than the Carrington Event."

..... ARRL NEWS February 2022



Heil Sound Announces New Ownership

Heil Sound, the Fairview Heights, Illinois-based manufacturer of professional microphones, has announced the successful transfer of ownership from Bob and Sarah Heil to current President and CEO, Ash Levitt, and Director of Operations, Steve Warford. Sarah Heil has retired, but Bob will continue to do outreach work and product design within the amateur radio space under the title Founder and CEO Emeritus.

When discussing the transition, Heil said, "My life has been about achieving great sound, whether on the concert stage or in the amateur radio world. I've watched Heil Sound go from a regional sound company to a world-class microphone manufacturer. This company has been my passion but it is time for me to step aside. There is no better team to carry the company forward than Ash and Steve, and I have the utmost confidence in them."

Both Levitt and Warford started working with Heil Sound as teenagers building and packaging products. Levitt took a different career path in academia for a number of years but continued to

regularly consult with Heil Sound during that time. Levitt returned to Heil Sound full-time in 2017 and assumed the role of president in 2020. Warford worked his way up in the company during his tenure and has been responsible for daily operations for the past several years.

“Steve and I are honored to carry forward the legacy of Heil Sound,” Levitt responded. “We care very deeply about Heil Sound’s role in the industry and intend to build on that going forward with new products and greater distribution. An important part of that role that we pride ourselves on is the connection we have with professionals and end-users. As a musician and former broadcaster, I have spent a lot of time on stages and in studios in front of a microphone and understand our users’ needs. I and everyone at Heil Sound share a passion for what we do because it helps others achieve their creative endeavors.”

..... *Heil Sound February 2022*

Lewis & Clark Trail On the Air

is seeking Amateur Radio Clubs and participants that are located in Indiana.

If you have an interest of setting up and operating during this event, check out the Facebook or Website for the event.

The organizers for this event are hoping that this information spikes some interest from club stations from Indiana.

Facebook: <https://www.facebook.com/LewisandClarkOTA>

Website: <https://lctota.org/>

The committee is meeting weekly to have this be a top notch event. We are working hard to cover all the states and have found most clubs to be very interested. Now to get the rest signed up and ready to go.

ONLY 118 DAYS TO GO!!

They have got most of the 16 states covered, just need to get a couple more. It's getting exciting. The clubs involved are excited too. So get ready for June 4-19 for the 1st Lewis and Clark Trail On the Air event.

ARRL Indiana Section

Section Manager: Jimmy L Merry Jr, KC9RPX kc9rpx@arrl.org

MARC WINTER FIELD DAY

LEAVES SOME COLD

Winter Field Day 2022 got a cold reception from MARC members. Only two stations were activated during the frosty two-day event. Tim, WC9G took the prize for the most contacts. Tim said, "I had a frequency on 20M so they came to me. I had to be very persistent to keep the frequency as many attempts to usurp it were made."

Tim operated SSB on 40 and 15 meters as well logging 127 contacts. Tim used his POTA set up. "I operated portable in my "Winter POTA" mode sitting in my car using a MyAntennas 10-80M EFHW up a 40' Spiderbeam mast in my homemade 2" receiver mount mast mount, then sloping down to a 6' insulated fence post." One of Tim's contacts was with club member Steve, K9DY who was operating WFD from a park near Estereo, Florida. It was a cool 55 degrees at his location.



Meanwhile Jack, W8ISH worked from his home QTH using battery power to log 51-contacts. Only one of those on SSB. Finding huge pile-ups and little response on side-band, Jack switched to PSK31, a digital mode for keyboard to keyboard contacts.

The traditional ARRL Field Day for 2022 is scheduled for June 25-26. Mark your calendar now for a much warmer field day experience.

-w8ish

MARS EXERCISE

MARS is having an interop exercise on February 18th through the 21st. We operate on 60 meters normally for this part of the exercise, see below if anyone is interested please join the ZOOM meeting. It will explain what is to take place.

Paul English will host a Zoominar as part of my outreach kickoff to the amateur radio community. I will discuss authorities; the types of information that is of interest; modes of outreach; 60 meters; etc.

18 0100 Hrs Z Feb (172000 Hrs eastern Feb)

<https://us02web.zoom.us/j/83781154615?pwd=L0NOY0hEV0tBdmNDWVNNeWRaVXJ5dz09>

Meeting ID: 837 8115 4615

Passcode: 670665

..... Bill --- KM6CRL

DMR INFORMATION

This is the link to the general DMR presentation available from Jay, W9LW. It is an excellent overview of the state of DMR today.

<https://w9lw.farlowconsulting.com/wp-content/uploads/2021/10/Indiana-DMR-pres0.pdf>

This is a link to a YouTube channel managed by W1MSG. He works closely with the Pi-Star community and has excellent videos that walk you through many of the aspects of setting up a hotspot for use on DMR as well as other modes.

<https://www.youtube.com/watch?v=UUJmNH6b8-w>

This is a link to a programming guide that Jay did specific to the Anytone DV878 HT. This can give you an idea of what programming these radios can look like. Again I encourage you to reach out to myself or another experienced DMR user to help you get up and running. While it is not THAT difficult developing a DMR program for a radio is more intricate than what many are accustomed to. I am happy to help position you for success and to enjoy the mode.

Side note: "codeplug" is a term that goes back to some of the original programmable radios in the commercial world. To program frequencies into the radio you used special equipment to write or "burn" hex code which described the frequencies and a limited set of personality settings onto a single-use PROM chip. Once the writing process was completed you plugged the chip into a socket on the PCB for the radio and it was programmed. Today the term codeplug is used throughout the commercial and public safety radio industry as well as in some use cases for Amateur Radio to describe the software programming template that is loaded into the radio. For example if you use CHIRP or RT Systems software to program your radios; the file that you create and write to the radio is a codeplug.

<https://w9lw.farlowconsulting.com/2020/12/28/anytone-at-d878uv-codeplug-programming-guide/>

This is the site that is the issuing authority for a radio ID to use on DMR and other digital modes. You only need one even for multiple radios. There is no cost.

<https://www.radioid.net/>

This is the link to the Indiana DMR Repeater Matrix which is maintained by W9LW. HE endeavors to keep it as up to date as possible. This should help give you a fair idea of where repeaters are located and their configurations.

<https://bit.ly/3oOtZxk>

I have had several people ask about radios. I HIGHLY recommend the Anytone DV series. Anytone DV878UVII is an analog and DMR enabled portable radio which also supports DMR based or traditional analog APRS. It has a built-in GPS module with no additional hardware required. The Anytone DV578UVIII is a 2M, 220 (lower power) and 440 radio which also supports analog, DMR, and digital/analog APRS. Both are excellent platforms.

<https://powerwerx.com/anytone-atd578uviiiplus-dmr-tri-band-mobile-radio-bluetooth>

<https://powerwerx.com/anytone-at-d878uvii-plus-dmr-gps-aprs>

Also available from Bridgecom or Connect Systems. I would stick to one of those three to ensure that you are receiving the US version of the radio AND that you have full warranty support.

Given the current supply chain issues at hand; finding my preferred Zum Duplex hotspot is a challenge. There are options available via Amazon which are usable also. If you're interested please reach out and I'll make some recommendations. Please note: The hotspots support DMR, Amateur P25, NXEdge, D-Star and the open side of Yaesu Fusion. They are very versatile and a solid tool to have in your box if you make the leap into digital voice.

DMR has an admittedly steep learning curve. BUT once you work through that it is a very enjoyable and reliable mode. I am excited to have it coming into the fold for the IDHS RACES team. It is another tool in our toolbox which will help support our mission. For any of our team members who are unsure but would like to "try it on;" please reach out. I have plenty of equipment and would be happy to arrange the loan of a radio and hotspot for you to test.

A couple of good website to learn key terms, flows etc are

<https://www.dmrfordummies.com/faq/>

<http://www.miklor.com/DMR/ppt/DMR-BasicTutorial.pdf>

I encourage you to give them both a look.

Thank You for your time.

Best Regards,

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N9ALD@winlink.org<mailto:N9ALD@winlink.org>

..... *Thanks to Noel --- W9NMM for this DMR information*

**JOHNSON
COUNTY**



EMCOMM WORKING GROUP

The **Johnson County** EMMCOMM Working Group is up and running. The organizational meeting was held Wednesday February 16th at the Franklin Radio Room.

The first meeting was hosted by Tim-WC9G and Jack-W8ISH in an effort to reorganize and reenergize our club commitment to Amateur Radio Emergency Communications.



Tim, WC9G solicits mission ideas from working group

The **key word** here is Commitment. Attending members decided to focus on emergency field response with Amateur Radio communications while taking an aggressive approach to continuous training.

This effort was announced at the January MARC meeting where a sign-up list was circulated. A follow up email requesting club volunteers was sent a few days later.



It is not too late to join the EMMCOMM group. Send an email to president@midstatehams.org or to w8ish@arrl.net.

The next training session is scheduled for Wednesday March 9th at 7pm. Due to Covid restrictions the meeting location will be announced prior to that meeting.

-Jack w8ish

37th Annual



Columbus HAMFEST

Sponsored by Columbus Amateur Radio Club

<http://www.carcnet.net>

Facebook: Columbus Amateur Radio Club Hamfest

All-Indoor
Flea Market

Saturday, April 2, 2022
8:00 a.m. to Noon

Food &
Drinks
Available

Bartholomew County Fairgrounds
Community Building

750 W County Road 200S, Columbus, Indiana 47201

General Admission
\$5.00 at the door

Talk-in: 146.79 MHz (-600 kHz, PL 103.5 Hz)

VE TESTING

9 - 11 a.m.

VE testing will be provided by SCICSG representing the Laurel VEC, which has been providing free VE testing since 1984.

Pre-Register at least 24 hours in advance, please, by emailing:

Mike Tarkley W9 MDT

w9mdt@amr.net

812-350-5175

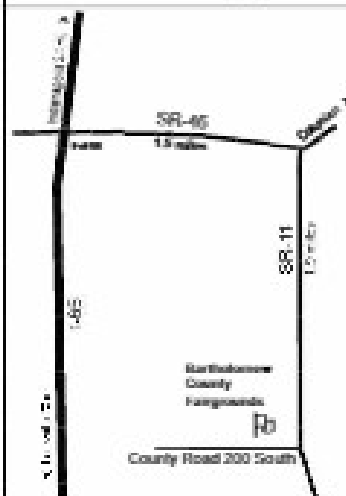
Hourly Door Prizes!

Grand Prize is a

ICOM 2730A

Dual Band Mobile

(Cash will be awarded to non-amateur winner)



Flea market space is available at a rate of \$10 for an 8 foot table.
Rental fee includes tables.

Set-up 6 a.m. day of the hamfest

Registration will be conducted at the door or in advance.

Please enclose SASE with advance exhibitor reservations or advance general admission.

Any advance registrations must be prepaid and postmarked by March 18, 2022

Make checks payable to: Columbus Amateur Radio Club.

For registrations or more information, contact:

Noel Taylor, NR1JT

2529 Sandcrest Blvd. Suite B

Columbus, IN 47203

n5cjt@att.net

Free
Parking

INDIANA HAMFESTS

February 26

LaPorte County Amateur Radio Club

Cabin Fever Hamfest

7 am - 1 pm

LaPorte Civic Auditorium

1001 Ridge St. LaPorte, IN

February 26, 2022

Dugger ARC Hamfest

Dugger Community Building

8am - 12 pm

834 S Hicum St, Dugger IN

March 12, 2022

Wabash Valley ARA Spring Hamfest

Clay County 4-H Fairgrounds

6550 North State Road 59 Brazil, IN

<https://www.w9uuu.org/hamfest.php>

April 2, 2022

Columbus Hamfest

Bartholomew Co Fairgrounds

750 W 200 S Columbus, IN

April 16, 2022

Henry County Tailgate

8 am - 12 pm

W G Smith Building @ Memorial Park

2221 N Memorial Drive New Castle, IN

<http://w9ob.org>

May 7

North Central Indiana Hamfest

Miami Co Fairgrounds

1029 W 200 N

Peru IN

June 11

Bloomington ARC Tailgate

Southside Christian Church

500 E Empire Mill Rd Bloomington, IN

www.bloomingtonradio.org

July 30, 2022

East Central Indiana Hamfest

8 am - 3 pm

Randolph County Fairgrounds

1885 S US 27 Winchester, IN

August 6, 2022

Elkhart East Hamfest

8am – 2 pm

21565 Executive Parkway Elkhart, IN

<https://elkharteasthamfest.com/>

August 13, 2022

Hendricks Co. Tailgate

Avon United Methodist Church

6550 E US 36 Avon, IN

August 13, 2022

Auburn Hamfest

Auburn Cord Duesenberg Museum

9 am – 1 pm

1600 Wayne Street Auburn, IN

October 8, 2022

Hoosier Hills Hamfest

8 am

Lawrence Co Fairgrounds

11265 US-50 Bedford, IN

www.w9qyq.org

October 15, 2022

TARS - Oktoberfest

7 am - 2 pm

Lynnville Community Center

416 W ST RD 68 Lynnville, IN

October 22, 2022

Shelby Co Fairgrounds

500 Frank Street Shelbyville, IN

November 19 & 20

Ft. Wayne Hamfest

Allen Co War Memorial Coliseum

4000 Parnell Avenue. Fort Wayne, IN

November 26, 2022

Wabash Valley ARA Turkey Fest

Clay County 4-H Fairgrounds 6550 North State Road 59 Brazil, IN

<https://www.w9uuu.org/hamfest.php>

2022 National Hamfest Schedule

05/20/2022 - 05/22/2022

Dayton Hamvention

Location: Xenia, OH

Type: ARRL Hamfest

Sponsor: Dayton Amateur Radio Association

Website: <http://hamvention.org>

CLUB DUES FOR 2022

It is that time of year for your dues for the Mid-State Amateur Radio Club.

The dues have been raised to \$25.00 per year as voted on by members present at the November 2021 M.A.R.C. Meeting. The previous amount for dues was not meeting expenses for the year and this is the first dues increase in many years.

Please check out the M.A.R.C. website and you may pay your dues via PayPal.

This also a good time to update any of your information for club records such as license upgrade, change of address or call sign.

This is also a good opportunity for new amateurs to join our club and join in our club activities for 2022.

Please see Jacki Frederick, KI6QOG M.A.R.C. Treasurer



MID-STATE AMATEUR RADIO CLUB

The Mid-State Amateur Radio Club meets the **THIRD SATURDAY** of each month at the New Hope Church 5307 West Fairview Road, Greenwood, IN 46143.

See our website, www.midstatehams.org, for maps on how to get to our meeting.

Everyone is welcome; you do not have to be a *HAM* to attend our meetings or a member of the club.

W9MID Repeater:

146.835/
146.235 MHz
(151.4 Hz PL Tone)

Club Officers:

President: Tim Aldridge - WC9G
Vice President: Rhonda Curtis - WS9H
Secretary: Jim Adams – KB9JMU
Treasurer: Jacki Frederick - KI6QOG
Repeater Trustee - Chris Frederick – KQ9Y

W9MID Repeater:

443.525/
448.525 MHz
(151.4 Hz PL Tone) YEASU SYSTEM FUSION (C4FM)

Weekly Net: Sunday evening 7:00 PM ARES/RACES members and ALL RADIO AMATEURS
146.835/146.235 MHz (151.4 Hz PL Tone)

The Official Newsletter of the Mid-State Amateur Radio Club

P.O. Box 836
Franklin, Indiana
46131

Spark Gap Editor: Robert LaGrange N9SIU

Please send your articles to my email: n9siu@yahoo.com no later than the 2nd week of the month.



Thanks to New Hope Church for the use of their building for meetings and testing.